

INTERIM REPORT AND
LEGISLATIVE RECOMMENDATIONS OF

**THE JOINT COMMISSION ON
TECHNOLOGY AND SCIENCE**

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA



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to

**The Governor and
The General Assembly of Virginia
Richmond, Virginia
January 2000**

I. COMMISSION ORIGIN AND BACKGROUND

To continue the work begun by the Task Force on Science and Technology established under House Joint Resolution 390 (1993), the 1996 General Assembly adopted House Joint Resolution 195, which created a joint legislative subcommittee to study science and technology. The subcommittee reported to the Governor and the 1997 General Assembly in House Document No. 81 (1997). The creation of the Joint Commission on Technology and Science ("Commission") was included among the recommendations of the subcommittee. Created by the 1997 General Assembly through House Bill 2138, the Commission is a permanent legislative commission charged to study all aspects of technology and science and to promote the development of technology and science in the Commonwealth of Virginia through sound public policies. (See Chapter 11 (§ 30-85 et seq.) of Title 30 of the Code of Virginia.) The Commission consists of nine legislators (five Delegates and four Senators); submitted its first report to the Governor and the 1998 General Assembly in House Document No. 89 (1998); and maintains a website at <http://legis.state.va.us/jcots/jcots.htm>.

At its meeting on April 7, 1999, the Commission adopted its 1999-2000 work plan. The work plan identified five issues for study through the establishment and work of advisory committees, co-chaired by the Commission members: Education (Delegate Plum and Senator Howell, co-chairs); Economic Development (Delegate Bennett and Delegate Purkey, co-chairs); Electronic Government (Senator Ticer, chair); Law Enforcement (Senator Newman and Senator Schrock, co-chairs), and Selected Topics in Law and Technology (Delegate Diamonstein and Delegate May, co-chairs). Of these topics, the advisory committee on Selected Topics in Law and Technology exclusively focused on the Uniform Electronic Transactions Act and the Uniform Computer Information Transactions Act.

During the period from November 1999 to January 2000, advisory committees met several times to study the topics assigned to them. During the Commission's meeting on January 7, 2000, advisory committees presented their final reports and recommendations, including legislative drafts that would implement these recommendations if enacted. During this meeting, Commission staff presented additional miscellaneous legislative proposals for the Commission to consider. These additional legislative proposals arose from testimonies and presentations made at past Commission meetings and from past Commission activities. On January 12, 2000, the Commission met to consider the proposed legislation. All legislative proposals were approved by the Commission to be recommended to the Governor and the General Assembly and to have

the legislative drafts be introduced by the Commission members. These recommendations are discussed in Part II of this report. All legislative proposals were approved by unanimous voice votes except for the legislative draft of the Uniform Computer Information Transactions Act (UCITA). The legislative draft of the UCITA was approved on 7-to-2 vote with Delegate Bennett and Senator Newman voting against its introduction as a Commission recommended bill.

II. LEGISLATIVE RECOMMENDATIONS

A. EDUCATION

1. Regarding the Governor's budget proposal on educational technology in grade levels K through 12.

Although the Governor's commitment to fund educational technology is commendable, his proposed program, "2000-02 Budget K-12 Education - Technology Initiative: Implement a State-Wide Web Based System," may obligate too much money in one program. To that extent, the Commission favors flexible block grants and creating a predictable funding formula for educational technology over the Governor's proposed program.

2. SJ 40. Study; Educational technology funding in grades K through 12.

The Commission recommends establishing a predictable formula for funding educational technology and educational technology support personnel; thus, the Commission recommends Senate Joint Resolution 40, which would direct the House Appropriations Committee, House Finance Committee, and Senate Finance Committee to study and develop such funding formula.

3. SB 83 and HB 203. Standards of Quality; educational technology.

The Commission recommends amending the Standards of Quality to include educational technology and technology support personnel; thus, the Commission recommends Senate Bill 83 and House Bill 203.

4. SB 84. Computer Proficiency Enhancement Project.

The Commission recommends creating the Computer Proficiency Enhancement Project, which would establish programs at two elementary schools, two middle schools, and two high schools located in economically disadvantaged areas to check out laptop computers to students; thus, the Commission recommends Senate Bill 84 and the appropriation of sufficient moneys to fund the Project.

5. SJ 41. Education Web Portal

The Commission recommends creating a single education web portal to provide all interested persons in the Commonwealth with easy access to a comprehensive source of educational information; thus, the Commission recommends Senate Joint Resolution 41.

B. Economic Development

1. HB 421. Virginia Technology and Biotechnology Investment Act Created.

The Commission recommends keep improving the Commonwealth's economy by further developing information technology and biotechnology industries. To that extent, the Commission recommends creating tax credit programs for investing in such industries and for conducting research and development, including a transferable research and development tax credit program; thus, the Commission recommends House Bill 421.

2. HB 400. Tax credit for investing in small technology and biotechnology companies.

The Commission recommends creating a special tax credit program for investing in small, information technology or biotechnology businesses; thus, the Commission recommends House Bill 400.

3. HB 401. Qualified investments and subordinated debts.

The Commission recommends amending § 58.1-339.4 to (i) raise the \$5 million per year cap, (ii) reduce the number of years that an investor must hold on to the equities, and (iii) reduce the penalties provided therein; thus the Commission recommends House Bill 401.

4. HJ 35. Study; Venture Capital Program

The Commission recommends conducting a study to evaluate the creation of a state-sponsored venture capital program for biotechnology businesses in the Commonwealth; thus, the Commission recommends House Joint Resolution 35, which will request the Innovative Technology Authority to conduct such study.

C. Electronic Government

1. SJ 71. Commending the Department of General Services.

The Commission recognizes and appreciates the efforts of the Department of General Services in developing the electronic procurement project. The Commission also recognizes that the Department's project, if fully implemented, will increase the technical capacity to process electronic procurements of higher purchase amounts. Thus, the

Commission recommends Senate Joint Resolution 71, which would commend the Department of General Services.

2. SJ 72. Study; Electronic Procurement Processes.

The Commission recommends identifying statutory and regulatory barriers to electronic procurements to ensure that the electronic procurement processes envisioned for the Commonwealth would comply with the relevant laws; thus, the Commission recommends Senate Joint Resolution 72, which would request the Joint Legislative Audit and Review Commission to conduct such study.

3. SB 235. Virginia Public Procurement Act; Internet.

The Commission recommends amending the Virginia Public Procurement Act (§ 11-35 et seq.) to allow government entities to post notices required under the Act on the Internet; thus, the Commission recommends Senate Bill 235.

4. SB 234. Advantage Virginia Electronic Procurement Program.

The Commission recognizes that Virginia companies that are approved for the Federal Supply Schedule but not listed on its electronic procurement website, "fedcenter.com," are significantly disadvantaged in comparison to the companies that are listed; thus, the Commission recommends Senate Bill 234 which will create a grant program to help the Virginia companies get listed on the "fedcenter.com" site and appropriation of sufficient moneys to fund the program.

5. Regarding Virginia Public Procurement Reform Task Force.

The Commission recommends amending the Virginia Public Procurement Act (§ 11-35 et seq.) to increase the statutory maximum for small purchases, those for which a public body may establish purchase procedures without requiring competitive sealed bids or competitive negotiations. The Commission recognizes that the Virginia Public Procurement Reform Task Force, after conducting a study on this issue, will be making a recommendation for such increase. The Commission supports the Task Force and recommends the General Assembly to adopt the Task Force's recommendation.

D. Electronic Commerce - Uniform Electronic Transactions Act and Uniform Computer Information Transactions Act.

1. HB 499. Uniform Electronic Transactions Act.

In order to better facilitate electronic commerce, electronic record keeping, and electronic filing, the Commission recommends House Bill 499, the Uniform Electronic Transactions Act.

2. HB561. Uniform Computer Information Transactions Act.

As no statutory scheme governing transactions of computer information currently exists, the Commission recommends House Bill 561, the Uniform Computer Information Transactions Act

E. Miscellaneous

1. HB 403. Advanced wireless communications; localities.

The Commission recommends amending the Advanced Communications Assistance Fund (§ 9-265.1) and other relevant sections to allow localities to use the grant moneys in developing satellite or wireless networks in addition to the fiber-optic networks currently allowed. Thus, the Commission recommends House Bill 403.

2. SB 242. Extending the sunset of the Chapter 704 of the 1999 Acts of Virginia.

The Commission recommends that the sunset date of Chapter 704 of the 1994 Acts of Virginia be extended. Chapter 704 allows certain bodies of the Commonwealth to conduct video conference meetings under less stringent requirements than those under the Virginia Freedom of Information Act (§ 21-340 et seq.). Thus, the Commission recommends Senate Bill 242.

3. HB 513. Internet Privacy Policy and Statement.

The Commission recommends that the public bodies of the Commonwealth that maintain websites create Internet privacy policies and statements; thus, the Commission recommends House Bill 513.

4. SJ 77. Webcasting Study.

The Commission recommends conducting a study to set guidelines on broadcasting meetings over the Internet; thus, the Commission recommends Senate Joint Resolution 77, which would create a joint subcommittee to conduct such study.

5. HJ 84. Commending the Virginia Science Museum.

The Commission recognizes and appreciates the Science Museum of Virginia for its efforts in hosting the National Science Week; thus, the Commission recommends House Joint Resolution 84 which would express the General Assembly's commendations to the Science Museum of Virginia.

II. ADVISORY COMMITTEE REPORTS

A. ADVISORY COMMITTEE ONE (EDUCATION)

DEL. KENNETH R. PLUM AND SEN. JANET D. HOWELL, CO-CHAIRS

1. Summary

Advisory Committee One, charged with studying educational technology issues, met twice during this interim, on December 20, 1999, and January 6, 2000. The Advisory Committee One was co-chaired by Delegate Ken Plum and Senator Janet Howell, and composed of 10 citizen members who possessed a wealth of knowledge in education and technology. The main focus of the Advisory Committee's efforts this interim was in improving educational technology in grades K through 12.

2. December 20, 1999, Meeting

a. Governor's Budget Proposal on Educational Technology in K-12

On December 20, 1999, the Advisory Committee received presentations on the Governor's budget proposal on educational technology in K-12. Lan Neugent, Assistant Superintendent for Technology, and Dr. Cam Harris, Assistant Superintendent for Assessment and Reporting, Department of Education, first provided background on the Governor's proposal. During August and September of 1999, the Department of Education conducted an "Internet Connectivity Survey" to ascertain how many Internet-connected computers were available to K-12 students in schools. The survey revealed that in all instructional areas, including libraries and laboratories, the availability of Internet-connected computers was 1 per 8.09 students. In classrooms only, the ratio was one Internet-connected computer per 16.67 students. Mr. Neugent reported that the ideal ratio is five students per one Internet-connected computer. The Governor has proposed an initiative to remedy this disparity.

Rob Lockridge, Associate Director for Education, and Andrew Diesenthanler, Budget Analyst from the Department of Planning and Budget, presented the details of the Governor's proposal. A copy of their presentation is attached to this report. According to the proposal, "[t]he goal of this program would be to improve the SOL [Standards of Learning] instructional, remedial, and testing capabilities of high schools" so that all schools will be offering the same level of computer instructions. The proposal initially targets high schools only, and will be phased into lower grade levels when the program objectives are achieved.

The proposal entails the following fiscal details: \$4.2 million of the general funds for contractual services and demonstrations; \$12.3 million of the general funds for onsite computer support and central office guidance and assistance; \$41.2 million of the literary funds in the first year and \$43.6 million of the literary funds in the second year to finance infrastructure, hardware, and software. In the third year, \$43.6 million of the literary funds will be distributed to localities for additional hardware and software. Thirty percent of the literary fund distribution will be based on

a per-pupil basis for software. Seventy percent of the literary fund distribution will be based on the needs of the individual high schools regarding infrastructure and hardware. This need-based fund will be distributed to high schools that do not meet the infrastructure criteria for SOL testing, which is defined as having a student-to-Internet-ready computer ratio of 5-to-1, with the Internet-ready computer defined as a computer connected to a local area network (LAN), Network Virginia, or equivalent. The schools that already meet this criterion will not receive any of the need-based fund but will only receive the allotment from the 30 percent per-pupil distribution. The schools that will be receiving need-based funds will stop receiving the funds once they reach the criterion. Any remaining moneys left from the need-based fund at the end of the three-year program will revert to the literary fund. In addition, to receive any of these funds, the schools must agree to (i) achieve SOL test capability by year 2003, (ii) a state-local share/split based on the composite index of the general fund costs (dollar matching based on the composite index), and (iii) a detailed review by the Department of Education. Furthermore, to the extent that the federal E-Rate funds are available, they will offset literary funds, which will in turn be available for school construction loans.

b. Testimonies from Educational Entities

Richard Pulley, Government Relations Officer, Virginia School Boards Association (VSBA), provided the VSBA's position letter including the resolution it adopted in 1995. Mr. Pulley stated that although he commends the Governor's budget in signifying educational technology, the VSBA believes that grades 3, 5, and 8 are the crucial points because SOL tests are given at these grade levels. He said that each student in these grades should be provided with Internet-ready laptop computers.

Cheri James, President, Virginia Education Association, stressed the importance of utilizing advanced technology in education. She said students need to be trained in computer applications that are compatible to current business applications. For example, high-speed seamless access to the Internet is essential. Some schools are still using Apple IIe computers in the classroom. These computers, produced in the early 1980s, are obsolete in the business world; thus, learning to use them affords no benefit. Regarding the Governor's proposal, she stated that she understands the need to start at the high school level, but that all grades need the technology. Furthermore, she urged the use of laptops as opposed to desktops. In some communities, especially in rural areas, schools are the only place where students may access computers. In these communities, the schools may allow the students to take the laptop computers home when the computers are not being used in the schools.

Dr. J. Larry Hoover, Division Superintendent of Gloucester County Public Schools, stressed the importance of a predictable funding stream for educational technology. He said that the block grant program has worked well and expressed a concern that Governor's proposal would take the funding away from the block grant program. Under the block grant program, a school division will receive about \$23,000 to \$26,000 per school. The division, in turn, can apply these moneys to a local technology plan. Dr. Hoover also stressed the importance of funding technology personnel. Even if schools have computer equipment and software available to the students, in many instances, the schools lack sufficient technical support. He suggested changing the

Standards of Quality (SOQ) by adding technology personnel as one of the required services. Doing so will result in funding the technology personnel by the composite index, which means that the localities must match the state funds according to the composite index. He also suggested that all the schools should be connected to a wide area network, and that the State should negotiate and maintain the network. He predicted that the Governor's proposal may achieve this goal.

After a video presentation of "Educational Technology: Good for Students, Good for Virginia," prepared by Fairfax County Public Schools, Charles Woodruff, Assistant Superintendent of Finance, Fairfax County Public Schools, addressed the Advisory Committee. Mr. Woodruff echoed Dr. Hoover's remark that the block grants work well because of their flexibility in usage. Mr. Woodruff reported that although Fairfax County Public Schools are better capable of providing educational technology to the students than other school divisions, it, too, faces financial problems due to the explosive growth in student population. Furthermore, about 20 percent of students enrolled in Fairfax County Public Schools are receiving free or reduced price lunches; thus, Fairfax County also has economically disadvantaged students. Mr. Woodruff also emphasized the need to remedy the shortage of technical personnel.

Kathleen Pitchford from Chesapeake Public Schools addressed the Advisory Committee next. She expressed that the 5-to-1 students-to-computer ratio in high schools, as in the Governor's proposal, seems inappropriate. She explained that most computers in high schools are for vocational training and to use the computers for SOL testing would impede the vocational training. In addition, high schools that already meet the 5-to-1 criterion, as set by the Governor's proposal, would not receive the hardware funding for three years, but by the end of the third year, the computers may have become obsolete. She also expressed the importance of flexible, predictable funding and the need for technical personnel. She added that this need is for technical support staff, not technology teachers. She added that schools not only need computers for educational purposes, but also for administrative purposes and that administrative computers should not be overlooked.

Ilene Backofen, a teacher from Falls Church and the President-Elect of Virginia Electronic Student Information Services (VESIS), presented a letter from VESIS and addressed the Advisory Committee. She also emphasized the need for a dependable revenue stream to fund replacing and updating computer equipment and software. She reported that technology training for the teachers needs to include both educational and administrative uses. She also emphasized the need for technical support staff. She suggested that the state may want to look into creating a program similar to the federal E-Rate program at the state level. She added that whereas the Virginia Information Providers Network (VIPNet) provides a single web portal for all government information, a similar portal needs to be established that provides all educational technology and student information. By creating a statewide, state-sponsored and -maintained student information system, the Commonwealth can use its purchasing power to help the local schools purchase computer equipment and software at affordable prices.

William Ware from Henrico County Public Schools reported that Henrico County needs hardware and technicians. Henrico County is building three new schools and it will need

computers and related materials to equip the new schools. Furthermore, as with all other school divisions, Henrico County is competing with private businesses for computer technicians and simply cannot match the salaries private businesses offer to their newly recruited technicians.

c. Standards of Quality

Norma Szakal, Senior Attorney, Division of Legislative Services, made a few legislative suggestions to the Advisory Committee. Ms. Szakal stated that, ultimately, the money committees (House Appropriations Committee, House Finance Committee, and Senate Finance Committee) must approve any permanent formula for funding educational technology. She suggested that members of the Joint Commission on Technology and Science may want to consider introducing a resolution requesting the money committees to study the issue and develop a formula to fund educational technology in grades K through 12 as part of the Standards of Quality. She then explained the interactions of the Standards of Quality (SOQs), Standards of Accreditation (SOAs), and Standards of Learning (SOLs).

The SOQs are part of the Code of Virginia (§§ 22.1-253.13:1 et seq.). The SOQs define the programs and services that public schools must provide. The SOQs are required by Article VIII, § 2 of the Virginia Constitution. The SOAs are regulations promulgated by the Virginia Board of Education (8 VAC 20-131-10 et seq.). The SOAs are standards that public schools must meet in order to be accredited. For example, 8 VAC 20-131-30 provides the requirements that students must meet to advance to the next grade; 8 VAC 20-131-50 provides the graduation requirements; and 8 VAC 20-131-280 provides school accountabilities. The SOLs are neither statute nor regulation. They are guidelines and objectives that the Department of Education has prescribed. These set forth what a student must learn in certain core subjects, such as math and English, at certain grade levels. Currently, 8 VAC 20-131-30 requires testing students for SOLs at the end of grades 3, 5, and 8. Because the SOAs require high school students to achieve passing scores on certain SOL tests in order to obtain a diploma and a school's accreditation depends on the number of students passing the SOL tests, the SOLs have become as important as the statute or regulation.

Article VIII, § 2 of the Virginia Constitution requires the General Assembly "to determine the manner in which funds are to be provided for the cost of maintaining an educational program meeting the prescribed standards of quality." Therefore, in determining a formula to fund K through 12 education, the SOQs are the most important factors. Thus, to establish a permanent funding formula for educational technology in K-12, Ms. Szakal suggested that educational technology must be part of the SOQs.

3. January 6, 2000

Advisory Committee One (Education) met on January 6, 2000, to discuss the educational technology integration and funding in grades K through 12. The meeting began with a discussion of the Governor's budget proposal. Representatives from the Virginia Association of School Superintendents headed the discussion. The Advisory Committee then received recommendations for possible legislation from Norma Szakal, Senior Attorney, Division of

Legislative Services, and John Jung, Staff Attorney, Joint Commission on Technology and Science.

a. Governor's Budget Proposal on Educational Technology in K-12

William Pruett, Legislative Liaison, Virginia Association of School Superintendents, began his presentation by giving Committee members a booklet titled "2000 Legislative Positions," which was produced by the Association. The Association supports increasing funding efforts by implementing a permanent ongoing source for funding educational technology. It also promotes establishing personnel standards that would raise the level of technological literacy among educators. As for the Governor's budget proposal, Mr. Pruett stated that it is excellent for dealing with the Standards of Learning, and that it incorporates many of the Association's recommendations. The proposal, however, seems to commit a significant amount of money to the program without creating a permanent funding source for educational technology. The creation of the permanent funding source should be done first.

Upon further discussion, the Committee agreed that the Governor's commitment to fund educational technology is commendable; however, this particular program may inhibit the flexible block grants, which have been working well. The committee members were also concerned that this program only addresses one area of educational technology needs while bigger needs exist. One such need is the creation of a predictable funding formula. To that extent, the Committee members decided to recommend to the full Commission that it favor creating a predictable funding for educational technology instead of the Governor's proposal.

b. Possible Legislative Recommendations

Norma Szakal, Senior Attorney, Division of Legislative Services, presented a legislative draft that would amend the Standards of Quality (SOQs) (§§ 22.1-253.13:1 et seq.). Currently, the SOQs do not include technology or the use of computers. Ms. Szakal suggested that educational technology be incorporated into the SOQs because the basis for funding comes from SOQs.

The legislative draft, if enacted, would revise Standard 1 (Basic skills, selected programs, and instructional personnel), Standard 3 (Accreditation, other standards and evaluation), Standard 5 (Training and professional development), and Standard 6 (Planning and public involvement) to place educational technology, i.e., computer skills and related technology, squarely within the scope of the Standards of Quality. Specifically, this provision requires (i) the Board of Education to include proficiency in the use of computers and related technology in the Standards of Learning; (ii) revises the requirement for local school board K through 12 programs to include "technological proficiency" to specify "proficiency in the use of computers and related technology"; (iii) requires technology resource assistants to serve every school in each school division; (iv) modifies the requirements for the Standards of Accreditation to include "integration of educational technology into instructional programs" and "staff positions for supporting educational technology"; (v) adds to the staffing requirements for public schools "technology resource assistants, one to serve, either part time or full time, in each school" in each school division; (vi) modifies the requirement for the Board of Education to provide technical assistance

to local school boards regarding professional development ensuring proficiency in the use of technology by changing the language from "designed to seek" to "designed to ensure"; (vii) each local school board's professional development program in educational technology is to be designed to facilitate integration of computer skills and related technology into the curricula; (viii) the Board of Education's six-year technology plan is to be developed "to integrate educational technology into the Standards of Learning and the curricula of the public schools in Virginia"; and (ix) local school division technology plans are to be "designed to integrate educational technology into the instructional programs of the school division." A few technical syntax amendments are also made.

John Jung, Staff Attorney, Joint Commission on Technology and Science, presented three other legislative draft suggestions: an educational technology funding formula study, the Computer Proficiency Enhancement Project, and an education web portal.

The first legislative draft presented by Mr. Jung, if enacted, would direct the House Appropriations Committee, the House Finance Committee, and the Senate Finance Committee to study and develop a formula to fund educational technology and technology support personnel.

The second legislative draft, if enacted, would create the Computer Proficiency Enhancement Project ("Project") to be administered by the Virginia Department of Education ("Department"). The bill requires the Department to designate six schools (two elementary schools, two middle schools, and two high schools), located in economically disadvantaged areas of the Commonwealth, as Project schools. The Department is to provide portable computers to these schools. The portable computers may be used in classroom settings and shall be available to students to take home. The Project will last three academic years, at the end of which the Department will report to the Governor and the General Assembly regarding the successes and shortcomings of the Project, along with the Department's recommendation regarding the Project. The Department is also required to provide interim reports about the Project to the Joint Commission on Technology and Science at the end of each academic year.

The last legislative draft, if enacted, would request the Virginia Information Providers Authority, in association with the Virginia Information Providers Network, to create a common gateway to serve as a web portal for educational information and services similar to that created by the Authority for government information and services. The web portal would provide fast, convenient access to educational information and services for all Virginians interested in such information and services. The resolution requests that the web portal include information on the procurement of educational technology.

After suggesting a few amendments to the drafts, the committee decided that all four legislative drafts should be recommended to the full Commission for introduction.

4. Recommendations

- 1) Although the Governor's commitment to fund educational technology is commendable, his proposed program may obligate too much money in one program. Furthermore, the members of the Advisory Committee believe that flexible block grants are more favorable to local school divisions, and creating a predictable funding formula for educational technology is more important than the Governor's proposal. To that extent, the Advisory Committee One recommends that the Joint Commission of Technology favor flexible block grants and creating a predictable funding formula for educational technology over the Governor's proposed program.
- 2) Advisory Committee One recommends that the legislative draft directing the House Appropriations Committee, House Finance Committee, and Senate Finance Committee study and develop a funding formula for educational technology and technology support personnel should be introduced.
- 3) Advisory Committee One recommends that the legislative draft amending the Standards of Quality to include educational technology and technology support personnel should be introduced.
- 4) Advisory Committee One recommends that the legislative draft that would create the Computer Proficiency Enhancement Project, which would create laptop checkout programs at two elementary schools, two middle schools, and two high schools located in economically disadvantaged areas, should be introduced. The Advisory Committee also recommends that a budget amendment funding this project should also be introduced.
- 5) Advisory Committee One recommends that the legislative draft requesting the Virginia Information Providers Authority to create a single education web portal should be introduced.

B. ADVISORY COMMITTEE TWO (ECONOMIC DEVELOPMENT) DEL. WILLIAM W. BENNETT, JR AND DEL. HARRY R. PURKEY, CO-CHAIRS

1. Summary

Recognizing that technology industry is a major component of Virginia's economy, Advisory Committee Two was charged with studying economic development policies pertaining to technology businesses in Virginia. Advisory Committee Two, composed of 19 citizen members and co-chaired by Delegates Bennett and Purkey, held meetings on November 8, 1999, and December 7, 1999. During these meetings, the Advisory Committee studied two major areas affecting Virginia's information technology and biotechnology industries: intellectual property transfer and access to capital.

2. November 8, 1999, Meeting

On November 8, 1999, the Advisory Committee received three presentations. Rob Weaver, Vice President and Chief Financial Officer, North Carolina Technology Development Authority, Inc., described the economic development efforts in North Carolina. John Weiss, Executive-in-Residence for Innovation and Entrepreneurship, Merrick School of Business, University of Baltimore, described Maryland's efforts. William Small, Executive Director, Virginia Biotechnology Association, described the state of biotechnological companies in Virginia.

a. Presentation of Rob Weaver

Mr. Weaver reported that North Carolina is the third-leading entrepreneurial "hot spot" in the United States. North Carolina has the third-leading banking center in the United States and it is tenth in university research and development spending. Some of North Carolina's economic success could be attributed to the work of the North Carolina Technology Development Authority, Inc. (TDA). Like Virginia, North Carolina is experiencing the "digital divide," i.e., the economy is declining in rural areas where technology is not readily available, but is booming in urban areas where technology is readily available. To create jobs and wealth throughout North Carolina, the TDA was created in 1983 as a private nonprofit corporation.

The TDA, which is funded primarily by the North Carolina legislature, is divided into three functional sectors: (i) Entrepreneurial Support, (ii) Investment Capital, and (iii) Research Commercialization. As entrepreneurial support, the TDA operates 26 business incubators. A business incubator is a business center where related businesses, typically small and newly founded, can be centrally located to share resources and services. As a business incubator operator, the TDA offers flexible office and laboratory space, administrative services, business counseling, administrative services, mentoring support, training seminars, and Internet access. On the investment capital side, the TDA operates several investment funds available for technology businesses, including the Innovation Research Fund, the Rural Loan Fund, and Centennial Venture Partner, which complement the TDA's efforts in research commercialization. North Carolina, like Virginia, has a wealth of research and development resources in its universities. Within North Carolina's Research Triangle Park are Duke University, the University of North Carolina and its affiliates, and North Carolina State University and its affiliates. These research universities, according to Mr. Weaver, are quite aggressive in trying to commercialize the fruits of their research. "Research commercialization" refers to a research university's development of a copyrightable or patentable technology which is then transferred to a private business that will further develop the technology as a commercial product. The TDA acts as a facilitator in transferring technology to North Carolina-based companies. Furthermore, to help small technology businesses in technology transfers, the TDA operates the Centennial Venture Partner, a \$10 million venture capital fund that will invest in companies commercializing technologies developed at North Carolina's research universities. In addition, though not related to the TDA, North Carolina gives a tax credit equaling 25 percent of an investment to investors in small technology businesses.

b. Presentation of John Weiss

Mr. Weiss stated that Maryland's biotechnology industry is young compared to the major research areas of the nation, such as the Silicon Valley of California, the Route 128 Corridor of Massachusetts, and the Research Triangle Park of North Carolina. Unlike research universities in these areas, research universities in Maryland are not as cooperative with businesses in transferring technology. For example, Johns Hopkins University is one of the best research universities in the nation; however, it is not as successful in transferring technology to private businesses, mainly because of lack of venture capital. Maryland, however, is trying to remedy this.

One such effort is the Maryland Venture Capital Trust (MVCT). The MVCT is funded by state and local pension funds and is invested in other venture capital funds. The MVCT is invested in such a way that at least half of the MVCT funds go to Maryland companies. According to the MVCT's 1999 Annual Report to the Governor of Maryland, the Maryland General Assembly, and the Maryland Economic Development Commission, the MVCT has invested \$19.1 million into eight venture capital partnerships, including Oxford Bioscience Partners and Tri-Tech Partners.

Other funding programs exist to help draw world-renowned scientists to Maryland's research universities. Not only do the funding programs help pay the high salaries of these scientists, but the programs also help commercialize their inventions. Drawing these top scientists benefits Maryland's economy because these scientists become magnets for other bright researchers and students, who in turn create more inventions which may be commercialized. Currently, Maryland's research universities employ five of the ten most noted bioscientists in the world.

To further help draw top researchers, the Maryland General Assembly passed two bills during the 1990s. The 1990 General Assembly passed the Public-Private Partnership Act (Md. Code Ann., State Gov't § 15-523 (1999)), which allowed employees of higher education to have a business interest in or a business relationship with research and development businesses. In addition, the 1999 Maryland General Assembly passed House Bill 195, which gave additional protection for employees of the public institutions of higher education regarding intellectual properties they develop. House Bill 195 allows the researcher and the institution to deny inspection of the public record describing the researcher's intellectual property for four years while the institution and the researcher evaluate the patentability and commercialization potential of the intellectual property.

To help commercialize these intellectual properties, the Maryland General Assembly created the Enterprise Investor Fund (EIF). The EIF is invested in biotechnology companies that are started in Maryland. The success of the EIF is exemplified by the fact that an initial investment of \$250,000 by the state realized a gain of \$28 million when the start-up companies became public corporations. In addition, the EIF does not require these companies to stay in Maryland for a long period of time because biotechnology companies usually have difficulties in relocating due to the high cost of creating and maintaining wet labs and clean labs. This is especially true for companies that are located in state incubators and share resources, including labs. The incubators provide additional services to the companies in the form of ongoing business and technical reviews and other forms of support and counseling.

Another example of Maryland's efforts in promoting biotechnology, though not government related, is the formation of the Maryland Bioscience Alliance (MBA). The MBA is similar to the Virginia Biotechnology Association. The MBA is a private organization comprised of about 600 persons and dedicated to promoting biotechnology and bioscience in Maryland. For example, the MBA hosts bioscience conventions and shows, informs high school students of occupational opportunities in biotechnology, and helps community colleges in Maryland with their associates degree programs and certificate programs in biotechnology.

c. Presentation of William Small

Mr. Small reported that Virginia has a \$1.6 billion biotechnology industry. He stated that Virginia's biotechnology industry has more companies than Maryland's and employs more people. Furthermore, average salary of biotechnology workers are higher than those in Maryland. New and relocating biotechnology companies, however, have been choosing to locate in Maryland because Maryland invests more money and efforts trying to attract biotechnology companies than Virginia does. New Jersey is also aggressive in attracting biotechnology companies. For example, Virginia's House Bill 1667 of the 1999 Session, which would have granted research and development tax credits, was based on New Jersey's legislation. When Virginia's biotechnology companies relocate to other states, they take their workers with them. Not only is Virginia losing its biotechnology companies, it is also losing technology workers, thereby adding to the workforce shortage problem. Mr. Small outlined some of the legislative priorities to help Virginia's biotechnology industry.

Mr. Small recommended two tax programs. His first recommendation was the creation of a transferable research and development tax credit program. House Bill 1667 of the 1999 Session, as introduced, would have created such a program. As passed, however, the provisions regarding transferability of the tax credit were omitted and a reenactment clause, requiring reenactment by the 2000 General Assembly, was added. Mr. Small recommended amending the bill so that it would resemble the introduced version. Second, Mr. Small recommended creating a sales and use tax exemption for materials and equipment purchased for use in researching, developing and manufacturing biotechnology products.

Access to capital appears to be the top problem for biotechnology companies in Virginia. Some venture capital funds seem to be available in the Northern Virginia area, but not for the rest of the state. Mr. Small suggested creating a nonrestrictive, small, biotechnology business-loan program and a bioscience venture capital fund.

Next, Mr. Small recommended investing in research universities so that the universities can attract top researchers. Doing so will allow universities to build research centers around these researchers. For example, Virginia Commonwealth University (VCU) has one of the top biomedical research programs in the nation and a rapidly growing research center for genetic therapy and biomedical engineering.

In conjunction with investing in research universities, Mr. Small recommended improving the technology transfer policies of these research universities. According to Mr. Small, research universities are not aggressive in trying to commercialize intellectual properties that they develop. Instead of having a standard policy for the Commonwealth, the technology transfer policies of the various universities vary significantly. Sometimes the technology transfer offices tend to look for the best business arrangements for the universities. As a result, many of Virginia's small technology companies cannot pay the required royalties because these companies are not yet making profits.

Finally, Mr. Small discussed the workforce shortage problem in biotechnology. The workforce shortage in biotechnology may be even more severe than the workforce shortage in information technology. Mr. Small suggested that the biotechnology businesses should be more aggressive in trying to attract students into biotechnology and recommended that school officials be more informed about occupations in biotechnology.

d. Discussion

After the three presentations, the members of the Advisory Committee engaged in a discussion. A suggestion was made that House Bill 1667 should be amended to resemble the original version but include a realistic cap on the credit and cash-out provision (the Commonwealth to buy back the unused, unsold tax credit). Another suggestion was made that the Commonwealth should create venture capital fund programs dedicated to bioscience. Delegate Bennett suggested revisiting the issues of venture capital and technology transfer at the next Advisory Committee meeting.

2. December 7, 1999, Meeting

On December 7, 1999, the Advisory Committee revisited the issues of intellectual property transfer and access to capital. Michael J. Martin, Executive Vice President, Virginia Tech Intellectual Properties, Inc., Virginia Tech; Jennifer Murphy, Director, Office of Sponsored Programs, George Mason University; and S. Brian Farmer, Esquire, Hirschler, Fleischer, Weinberg, Cox & Allen, made presentations. Mr. Martin and Ms. Murphy presented the universities' perspectives on intellectual property transfer, and Mr. Farmer presented the state of venture capital in Virginia. The Advisory Committee also considered the two pieces of tax credit legislation that staff had drafted as a result of the November 8, 1999, meeting.

a. Intellectual Property Transfer

Mr. Martin stressed that the primary role of the universities is to educate. Even though research universities, such as Virginia Tech, have been serving as research engines, ivory towers, and business incubators, these roles are secondary to education. The role of educating is the backbone of academic culture, which is different from industrial culture. For example, in research and development, faculty tend to want to publish the findings whereas businessmen want to keep the findings secret and commercialize the product. Faculty members are driven by academic recognition whereas businessmen are driven by maximizing profit. The difficulties in

intellectual property transfer arise from these differing mentalities. Although academicians generally desire to publish their work, Mr. Martin averred that any trade secrets the businesses bring to the universities will be protected to the extent of the law. Another complication is that intellectual property transfer is governed by federal laws, state laws, and universities' policies. Despite these difficulties, Mr. Martin stated that Virginia Tech has been actively involved in negotiating research contracts.

Ms. Murphy emphasized that ownership is the key issue regarding intellectual property. Under the current laws, three different parties could possibly own an invention: the inventor, the organization providing the funding for the work, and the organization doing the work. The determination of who actually owns the intellectual property is affected by the type of intellectual property, i.e., patent, copyright, or trademark, and the source of funding. The universities' views are that if university personnel create intellectual property, the university owns it; if industry personnel create the intellectual property, the industry owns it; and if the intellectual property is created jointly by the university personnel and the industry personnel, they jointly own it. Joint ownership, in the legal sense, is not the parties each owning 50 percent of the property. Instead, joint ownership refers to each owner having 100 percent rights to the joint property. In most cases, the university owns the intellectual properties and licenses them to the industry.

The granting of licenses can also be problematic because universities desire to grant nonexclusive licenses whereas the businesses desire to obtain exclusive licenses. If a business obtains an exclusive license to an intellectual property, only that business can use and commercialize the intellectual property. If a business obtains a nonexclusive license, the university retains the right to license the same intellectual property to another business. A business prefers an exclusive license so that it can maintain a competitive edge. The university prefers to grant a nonexclusive license based on the philosophy that doing so will bring about a greater public good. For example, Internet traffic switching technology may be used for controlling automobile traffic. If an Internet service provider has an exclusive license to this technology, then the Internet company may not be willing or have the incentive to share the technology with the automobile traffic controlling industry. If the university has granted a nonexclusive license to the Internet company, then the university can license the technology to the other industry.

Ms. Murphy also pointed out that even with all these restrictions, the businesses that partner with universities are gaining valuable benefits. First, due to federal funding restrictions, the universities charge licensing fees that are lower than the actual market value of licensing the intellectual properties. Second, the businesses, even if they fund particular research and development programs, do not pay for indirect costs. For example, when a business funds a graduate student to conduct research and development, the graduate student is typically mentored and supervised by a faculty member. Although the business does not pay the faculty member's salary, the business benefits from the faculty member's time and knowledge.

Upon the conclusion of Mr. Martin and Ms. Murphy's presentations, the committee discussed the intellectual property transfer. An advisory committee member stated that each university has its strengths and weaknesses regarding intellectual property. Furthermore, some universities are

better than others in transferring intellectual property. Therefore, the committee member suggested that all the good attributes should be aggregated to form a common policy for all the universities. Mr. Martin stated that the current laws governing intellectual property transfers are fine, but to help facilitate intellectual property transfer, the state can do two things: (i) create programs that will help businesses in working with the universities, such as tax incentive programs and grants, and (ii) fund technology transfer offices throughout the universities so that each office can employ an adequate number of competent staff to deal with intellectual property transfers. Several advisory committees indicated that the current system employed by the universities to transfer intellectual property may be serving the Commonwealth well in academia, but not as well in economic development. Therefore, the advisory committee agreed that this advisory committee should be continued during the next interim to study the intellectual property issue further, including giving incentives to faculty members to commercialize their own inventions.

b. Venture Capital

Mr. Farmer gave a presentation on the state of venture capital in Virginia. According to the most current data collected by Pricewaterhouse Coopers, the D.C. Metro area, which includes Maryland and Virginia, ranks fourth in the nation in the availability of venture capital. Virginia, standing by itself, is eleventh in the nation. Thus, venture capital does exist in Virginia, but it is concentrated in Northern Virginia. Because the cost of doing business in Northern Virginia is already high and keeps rising, investors are now starting to invest in other parts of Virginia. For example, an investment in a Northern Virginia company may not result in as high of a return as if the same amount of money were invested in a company based in Richmond. Thus, some regionally-based venture capital programs have been started in areas such as Blacksburg, Charlottesville, Hampton Roads, and Richmond.

Mr. Farmer said that several states have tried to solve the problem of inadequate access to venture capital. First, some states have loosened security laws to allow for greater flexibility in investing. This method, however, does not work because security laws exist to protect the investors, investees, and the public, and loosening the restrictions imposed by security laws erodes confidence in investing. Second, several states have created state-sponsored venture capital programs. This method has mixed results. While some states' programs are successful, regardless of the success, the process can be too political to help the businesses. Third, several states, including Virginia, have created tax credits for investing. This seems to work, but a tax credit is not the same as capital funding.

Mr. Farmer then discussed Virginia's "angel investor" tax credit (§ 58.1-339.4 Qualified equity and subordinated debt investment tax credit). An angel investor is an individual who is not personally or professionally associated with the company, but who invests in it. Under § 58.1-339.4 of the Code of Virginia, an angel investor can claim a tax credit of an amount equal to 50 percent of the investment, not to exceed the amount of tax imposed per year or \$50,000 per year. Any unused tax credit can be carried over for up to 15 years.

This tax credit, according to Mr. Farmer, is a great start, but is not without problems. First, the aggregate amount of tax credit allowed under this section cannot exceed \$5 million per year. Thus, the possibility exists that the \$5 million total can be reached with just a few investments. If the \$5 million total is reached in a taxable year, an investor cannot receive the tax credit that year, thus the Virginia Department of Taxation pro rates the tax credit. However, because of the \$5 million restriction, investors do not know when they will actually get the tax credit. In addition, even if an investor may not receive a tax credit, the investor must file his taxes as if he will receive a tax credit in an amount equal to 50 percent of his investment. The Department of Taxation will then notify the investor regarding how much tax credit he will actually receive. If the actual amount of the tax credit is not the same as the amount equal to 50 percent of the investment, then the investor has to adjust and re-file his taxes. Finally, § 58.1-339.4 requires that the investor hold on to the equity of his investment for at least five years. If an investor does not hold on to the equity for at least five years for reasons other than (i) liquidation of the business, (ii) merger with or acquisition by a party not affiliated with the business, or (iii) the death of the investor, the investor not only forfeits the tax credit, but also must pay a stiff penalty to the Department of Taxation. Mr. Farmer suggested that § 58.1-339.4 be amended in the following ways: (i) raise the \$5 million per year cap, (ii) reduce the number of years that an investor must hold on to the equities, and (iii) remove, or at least reduce, the penalties.

Upon the conclusion of Mr. Farmer's presentation, the Advisory Committee agreed that § 58.1-339.4 of the Code of Virginia should be amended. The Advisory Committee also agreed that creation of a state-sponsored venture capital program needs to be looked at in more depth and that introducing a bill for the 2000 Session to address this issue is premature.

c. Tax Credit Legislative Drafts

One bill is the redraft of the introduced version of House Bill 1667 of the 1999 Session. This bill would give investment and research and development tax credits to technology businesses. Although the caps of the tax credits were reduced to match the enacted version of House Bill 1667, the new draft kept most of the provisions that the introduced version had, but the enacted version did not. One such provision is the transferability of tax credit. The new draft would allow companies to sell their unused tax credits to other companies.

Mr. Bob Skunda, an advisory committee member, suggested that the transferability provision be changed to mirror the provision under the version of the bill passed by the House of Delegates. This version provides that the unused tax credits shall be redeemed by the Tax Commissioner, instead of companies, to sell the unused tax credits. Mr. Skunda stated that by redeeming unused credits, the small technology companies will have a dependable percentage of the credits that can be reclaimed for cash. Plus, the company generating the credit will not end up losing a percentage of the credits to fees that attorneys, consultants and advisors will charge in the private transactions involving a sale between two companies. In the end, the small technology companies will be able to keep a larger percentage of the credit while the cost to the Commonwealth will remain the same.

On the other hand, redeeming unused credits for cash would work only if funds were available to make such cash payments. Furthermore, creating a program that certifies the transferable tax credits may better facilitate access to capital. To that extent, Delegate Purkey suggested that the new draft retain the transferability provisions.

Another bill regards the creation of tax credit for investing in small, information technology and biotechnology businesses located in Virginia. This tax credit, based on North Carolina's tax credit, would give a tax credit in an amount equal to 25 percent of the investment, not to exceed \$50,000 per taxpayer. A business which would qualify as a small, technology business under this bill is a business (i) whose purpose is to research and develop or commercialize information technology or biotechnology, (ii) which employs ten or fewer full-time employees, and (iii) which is engaged in such business in the Commonwealth.

4. Recommendations

Advisory Committee Two recommends:

- 1) That the redraft of the House Bill 1667 of the 1999 Session, which would provide tax credit for investing in technology and biotechnology businesses and would create a transferable research and development tax credit program, should be introduced.
- 2) That the bill that will give tax credits for investing in small, information technology or biotechnology businesses should be introduced.
- 3) That a bill should be introduced to amend § 58.1-339.4 to (i) raise the \$5 million per year cap, (ii) reduce the number of years that an investor must hold on to the equities, and (iii) remove or at least reduce the penalties.
- 4) That a resolution should be introduced requiring a study to evaluate the creation of a venture capital program for biotechnology businesses in the Commonwealth.
- 5) That the Advisory Committee Two (Economic Development) should be continued next year so that it can continue to work on such issues as intellectual property transfer and access to venture capital.

C. ADVISORY COMMITTEE THREE (ELECTRONIC GOVERNMENT)

SEN. PATRICIA S. TICER, CHAIR

1. Summary

Advisory Committee Three was charged with studying electronic government in Virginia. Since its creation in 1997, JCOTS has been an active participant and enthusiastic supporter of advancing the goal of delivering better, faster, and cheaper government services and information through information technology and advanced communication infrastructures. At its meeting on November 4, 1999, the advisory committee learned about the current state of electronic government and made suggestions on how JCOTS can continue to support electronic government efforts in Virginia's state and local governments.

The 17 citizens appointed to Advisory Committee Three possess a wealth of expertise in electronic government and the use of Web-based applications to promote better, faster, and cheaper services between state and local governments and the citizens and businesses they serve. Prior to the November 4 meeting, Senator Ticer had invited each advisory committee member to make a brief presentation. Everyone who responded to her invitation was on the agenda, which consisted principally of the presentations by advisory committee members.

Don Williams and Ron Bell from the Virginia Department of General Services (DGS) discussed the overall electronic procurement plan the Department is pursuing and the status of each of the two phases of the plan. Together, the phases encompass implementation, integration, and warehousing of electronic requisitions; ordering, bidding and contracting; centralized vendor registration; and payments. Phase I is complete, beginning in November 1998 and ending in September 1999. To achieve the Phase II goals of electronic procurement in Virginia, DGS will look to the private sector marketplace. In other words, the Department will not attempt to develop and deliver its own complete solution to electronic procurement. DGS is currently working on a request for proposals that asks for solutions to implement the Department's vision for electronic commerce in Virginia.

DGS estimated that it costs somewhere between \$70 and \$150 per procurement under Virginia's current procurement process. Full implementation of electronic procurement is expected to decrease the cost by about 50 percent and administrative time by about 70 percent. This savings will be achieved, in part, by the establishment of a single portal, or electronic point of contact, for buyers and sellers. In addition, Mr. Williams explained that once implemented, Virginia's electronic procurement system will capture data that reveals how and where Virginia spends its procurement dollars, which annually total about \$5 billion. That information will help Virginia leverage its huge buying power in the marketplace and drive the development of new products and services.

The Virginia Electronic Commerce Technology Center (VECTEC), represented by Thomas W. Andres from Christopher Newport University, Thomas W. Sawyer from York County, and Todd Klopp from the Inter-National Research Institute, discussed VECTEC's vision to help establish Virginia as a world leader in the widespread use of electronic commerce technologies. Its

mission is to distribute user-friendly means by which electronic commerce technologies can be adopted by the business, educational, and governmental communities of Virginia. The speakers collectively recognized that the transition to electronic government is a long-term effort that requires persistence and perseverance. The transition to electronic government, however, is absolutely necessary if local governments are going to be competitive in attracting new business ventures.

H. Hollister Cantus presented his views on the electronic procurement of goods and services by the federal government through the Federal Supply Service of the General Services Administration (GSA). Mr. Cantus led the advisory committee through a detailed comparison of the GSA's website, called "GSA Advantage," where approved vendors and contractors for thousands of products are listed on the Federal Supply Schedule, and a website called "fedcenter.com," operated by Digital Commerce Corporation, which also provides electronic procurement opportunities to authorized federal procurement and purchasing officials.

According to Mr. Cantus, about 800 businesses located in the Commonwealth, many of which are small businesses, have had their products approved for the Federal Supply Schedule but are not yet listed on the GSA Advantage website. Compared to companies that are listed on the website, these Virginia businesses are competitively disadvantaged. It costs about \$5,000 to be posted on the fedcenter.com website, plus a small monthly maintenance fee. Mr. Cantus also noted that GSA takes a one percent fee on every sale made on the GSA Advantage website and all sales made under the old paper system as well. This fee is paid by the purchasing agency from its general appropriations.

Kelly Donley from Digital Commerce Corporation demonstrated "VirginiaCenter.com," a digital marketplace for state and local government buyers and suppliers. For buyers, the center features multi-vendor, multi-catalogue content; purchase cart management; processing of procurement requisitions, discounts and fees, order processing, and invoicing; on-demand reporting; and inter-agency fee management. For sellers, the center provides electronic commerce procurement capability, a level playing field for small companies, online catalogue management, small business programs, order management, and transaction tracking.

Dan Galloway from the State Corporation Commission is also a member of the Privacy, Security, and Access Work Group of the Council on Technology Services (COTS). COTS, chaired by the Secretary of Technology, has 23 members, including representatives from state agencies, institutions of higher education, and local governments. COTS was created to study and advise the Secretary on issues affecting information technology planning and decision-making. Mr. Galloway presented an abridged version of the Work Group's report, "Toward the Use of Digital Signatures in the Commonwealth of Virginia," which had been presented to and adopted by COTS on October 27, 1999.

The report outlined a seven-point plan for utilizing digital signatures to enhance security and promote efficiency for a full-range of electronic business transactions throughout state government. The report recommended that the Commonwealth move forward in launching a first-wave deployment of digital signatures in a limited client population in early 2000. These

pilot deployments will focus on government-to-government, government-to-business, and government-to-general public transactions. Participants in the first wave include, among others, Chesterfield County, the Department of Game and Inland Fisheries, the Department of Information Technology, the Department of Motor Vehicles, the Department of Transportation, Fairfax County, and the Virginia Information Providers Network (VIPNet). The report also called for proposed legislation in the 2000 Session of the General Assembly that would amend Virginia's current statute on electronic signatures (§ 59.1-467 et seq.) to retain government agencies' ability to adopt digital signatures and restore their ability to adopt other forms of electronic signatures.

Ron Police from Oracle Corporation defined electronic government as the ability to securely connect citizens, suppliers, employees, and other agencies using the technologies and standards of the public Internet and private intranets. He highlighted many areas where electronic government is already happening via the Internet, such as paying car taxes, corporate taxes, and parking tickets; checking the progress of business and building permits; renewing vehicle registrations; and filing state income taxes. Mr. Police discussed the success of Utah's self-funded solution to establishing a citizen/government web portal. Through one website, permits and licenses are issued; development plans, such as zoning and traffic studies, are approved; bills are generated; fees are accepted; and questions are answered.

Rodney Willett from VIPNet discussed the goal of making "www.vipnet.org" a "one-stop shopping" portal for Virginia's state and local governments. For example, because citizens tend not to readily distinguish between services and requirements of state, local, and even federal agencies, they often get confused when they seek to open a business in Virginia. Through its self-funding model, VIPNet hopes to provide a single point of contact on the Internet where citizens can go to perform the tasks and to find the information necessary to properly open a business in Virginia. To accomplish this application and others like it requires a great deal of behind-the-scenes integration between state and local government agencies. Mr. Willett acknowledged that the level of integration between agency-to-agency communication is fairly well-developed; however, agency-to-local-government communication is an area in need of improvement.

2. Recommendations

Advisory Committee Three developed recommendations to:

- 1) Support DGS's electronic procurement plan for Virginia and the Department's efforts to outsource the implementation solutions it seeks in a forthcoming request for proposals.
- 2) Amend the procurement regulations promulgated by the DGS to increase the maximum amount for goods and services that agencies and institutions may purchase through the Internet by using either a small purchase charge card or an electronic purchase order. (See subsection b of § 3.25 of the Agency Procurement and Surplus Property Manual. Current regulations permit purchases up to \$5,000

for goods and services purchased in the open market; purchases from state contracts or mandatory sources have no dollar limits on electronic purchase orders.)

- 3) Amend the Virginia Public Procurement Act (VPPA) to authorize public bodies to post required notices and advertisements on the Internet in lieu of or in addition to publishing in the newspaper. (See definitions of "competitive sealed bidding" and "competitive negotiation" in § 11-37 and subsections D and E of § 11-41 of the Agency Procurement and Surplus Property Manual.)
- 4) Determine whether the statutory and regulatory requirements of the State Internal Auditor and the Auditor of Public Accounts will be satisfied through the electronic contracting and procurement processes that are envisioned for Virginia.
- 5) Propose a budget amendment for one-time grants, not to exceed \$5,000, to any small business in Virginia that has been approved for the Federal Supply Schedule, but is not yet listed on the "fedcenter.com" website. Grantees would be required to pay the monthly maintenance fee as a condition of receiving the grant.
- 6) Support the Virginia Public Procurement Reform Task Force's recommendation to amend the VPPA to increase the statutory maximum for small purchases, those for which a public body may establish purchase procedures without requiring competitive sealed bids or competitive negotiations. (See subsection F of § 11-41 of the Agency Procurement and Surplus Property Manual. In 1996, the statutory maximum was increased from \$15,000 to the current cap of \$30,000.)
- 7) Amend Virginia's current statute on electronic signatures (§ 59.1-467 et seq.) to retain government agencies' ability to adopt digital signatures and restore their ability to adopt other forms of electronic signatures. The suggested language is that found in the Uniform Electronic Transactions Act, an issue under study by JCOTS Advisory Committee Five, chaired by Delegates Diamonstein and May.
- 8) Propose a budget amendment for a digital signatures pilot project in 2000 that includes state agencies and institutions and local governments.
- 9) Continue to identify and eliminate barriers to electronic contracting and procurement that may exist in Virginia Code or agency regulations.

D. ADVISORY COMMITTEE FIVE (SELECTED TOPICS: UNIFORM ELECTRONIC TRANSACTIONS ACT AND UNIFORM COMPUTER INFORMATION TRANSACTIONS ACT)

DEL. ALAN A. DIAMONSTEIN AND DEL. JOE T. MAY, CO-CHAIRS

1. Summary

When the Commission's work plan was originally adopted on April 7, 1999, the Commission charged Advisory Committee Five to follow the developments of the proposed Uniform Commercial Code (UCC), Article 2B and to study electronic signatures and intellectual properties. Since April 7, 1999, the National Conference of Commissioners on Uniform State Laws (NCCUSL) has separated the UCC 2B into two separate stand-alone, uniform acts, the Uniform Electronic Transactions Act (UETA), which covers electronic transactions generally, and the Uniform Computer Information Transactions Act (UCITA), which only covers transactions of computer information. During this interim, the Advisory Committee Five considered these two uniform acts.

The Committee was composed of Delegate Alan Diamonstein and Delegate Joe May, who co-chaired the Committee, and 27 citizen members. These citizen members possessed a wealth of knowledge and represented a variety of interested sectors, including law professors, attorneys, businessmen, librarians, consumer group representatives, and government employees, including Mr. Carlyle Ring who is one of Virginia's Commissioners to the NCCUSL and who was the chairman of the UCITA Drafting Committee of the NCCUSL.

The Committee met three times: November 4, 1999, December 7, 1999, and January 4, 2000. After discussing UETA and UCITA, the committee decided to recommend to the full Commission that UETA and UCITA, as amended by the Committee, should be introduced.

2. Uniform Electronic Transactions Act (UETA)

a. Background

On November 4, 1999, John Jung, Staff Attorney, Joint Commission on Technology and Science, presented the legislative draft of UETA. This draft would have made technical amendments to the existing statutes to reflect the new section numbers, incorporates the existing language of the Virginia Code where applicable, including the existing statute on electronic signatures, and repeals the existing sections regarding electronic transactions and electronic signatures.

Mr. Jung reported that Professor Patricia Fry, chair of the UETA Drafting Committee of the NCCUSL; Michael Thomas, Deputy Secretary of Technology; and Dan Houlihan, General Manager of Virginia Information Providers Network have commented that the language used in the legislative draft, which is the existing statutory language, may be too technologically specific and may be problematic for government agencies. Mr. Jung explained that the required elements,

(i) unique to the signer, (ii) capable of verification, (iii) under the signer's sole control, (iv) linked to the record in such a manner that it can be determined if any data contained in the record was changed subsequent to the electronic signature being affixed to the record, and (v) created by a method appropriately reliable for the purpose for which the electronic signature was used,

focus on digital signatures, a type of an electronic signature. Mr. Thomas suggested that Advisory Committee use the original UETA language, which seems to be technologically neutral. Delegate May instructed the committee members to submit additional suggested amendments to staff.

b. Suggested Amendments to UETA

On December 7, 1999, the Committee went through 28 suggested amendments received:

[1] In § 59.1-502(7) of the proposed legislative draft, insert "Electronic record shall not include a telephone call or a record of a telephone call." - suggested by Jean Fox

[2] In § 59.1-502(8), insert "an electronic" in between "associated with" and "record" - suggested by Jean Fox

[3] In § 59.1-503(b) which deals with exclusions from UETA, insert Title 38.2 (Insurance) - suggested by Jean Fox

[4] In § 59.1-503(b), insert Title 55, Chapter 11.1 (§ 55-210.1 et seq.) (Disposition of Unclaimed Property) - suggested by Jean Fox

[5] In § 59.1-503(b), insert Title 55, Chapter 13 (§ 55-217 et seq.) (Landlord and Tenant) - suggested by Jean Fox

[6] In § 59.1-503(b), insert Title 55, Chapter 13.2 (55-248.2 et seq.) (Virginia Residential Landlord and Tenant Act) - suggested by Jean Fox

[7] In § 59.1-503(b), insert § 56-247.1 (Termination of Utility Service) - suggested by Jean Fox

[8] In § 59.1-503(b), insert Title 59.1, Chapter 25.1 (§ 59.1-335.1 et seq.) (Virginia Credit Services Business Act) - suggested by Jean Fox

[9] In § 59.1-503(b), insert the following new subdivision, "(4) A law that requires that specifically identifiable text or disclosures in a record or a portion of a record be separately signed, including initialed, from the record." - suggested by Jean Fox

* Note - Ms. Fox has also suggested excluding Code sections regarding notice of default, repossession, and foreclosure which are already excluded under subdivision (2)'s exclusion of

UCC Articles, specifically Title 8.9 Secured Transactions or by Rules of the Supreme Court of Virginia which are independent of the Code of Virginia.

[10] In § 59.1-503(c), strike out "to the extent it is governed by" and insert in its place "when used for a transaction subject to a" - suggested by Jean Fox

[11] In § 59.1-505(b), insert the following language after the existing text:

Except for a separate and optional agreement the primary purpose of which is to authorize a transaction to be conducted by electronic means, an agreement to conduct a transaction electronically may not be contained in a standard form contract that is not an electronic record. An agreement in such a standard form contract may not be conditioned upon an agreement to conduct transactions electronically. An agreement to conduct a transaction electronically may not be inferred solely from the fact that a party has used electronic means to pay an account or register a purchase or warranty. This subdivision may not be varied by agreement

- suggested by Jean Fox

[12] In § 59.1-505(c), insert the following language after the first sentence: "If a seller sells goods or services by both electronic and non-electronic means and a buyer purchases the goods or services by conducting the transaction electronically, the buyer may refuse to conduct further transactions regarding the goods or services electronically." - suggested by Jean Fox

[13] In § 59.1-505, insert the following new subsection: "(f) A consumer who makes an agreement to conduct a transaction electronically with a commercial party is entitled to a copy, on request and at no charge, of a written copy of the original contract, notice, or other document communicated to the consumer electronically." - suggested by Jean Fox

[14] In § 59.1-505, insert the following new subsection: "(g) An agreement to conduct a transaction electronically is subject to a requirement of good faith and fair dealing with respect to both the inducement to agree and the implementation of the agreement." - suggested by Jean Fox

[15] In § 59.1-505, insert the following new subsection: "(h) This chapter does not apply to a transaction entered into for personal, family or household purposes that was solicited or negotiated by any voice communication by telephone." - suggested by Jean Fox

[16] In § 59.1-508, insert "knowingly and purposefully" in between "If a sender" and "inhibits" - suggested by Marshall Curtis

[17] In § 59.1-510(2), strike "the electronic agent did not provide an opportunity for the prevention or correction of the error and," after "the electronic agent of another person if" - suggested by Jean Fox

[18] In § 59.1-511, strike "acknowledged, verified, or made under oath," in between "notarized" and "the requirement" - suggested by Jean Fox [Make a technical amendment (strike "the person authorized to perform those acts" and insert "a notary public") to accommodate this suggestion]

[19] In § 59.1-511, insert the following new subsection:

(2) In a transaction, if a law requires that a statement be signed under penalty of perjury, the requirement is satisfied with respect to an electronic signature, if an electronic record includes, in addition to the electronic signature, all of the information as to which the declaration pertains together with a declaration under penalty of perjury by the person who submits the electronic signature that the information is true and correct.

- suggested by Jean Fox

[20] In § 59.1-512(a)(1), strike "after" in between "in the record" and "it was first" and insert in its place "at the time" - suggested by Jean Fox

[21] In § 59.1-513(b), insert "and maintained" in between "(v) created" and "by a method" - suggested by Marshall Curtis

[22] In § 59.1-515, insert the following new language at the beginning of the section: "Subsections (a) and (b) of this section only apply in transactions not involving consumers. Subsections (a) and (b) of this section may not be varied by agreement." - suggested by Jean Fox

[23] In § 59.1-515(a), strike "otherwise agreed between the sender and the recipient" and insert in its place "the sender and the recipient agree to a different method of sending which is reasonable under the circumstances" - suggested by Jean Fox

[24] In § 59.1-515(b), strike "otherwise agreed between the sender and the recipient" and insert in its place "the sender and the recipient agree to a different method of sending which is reasonable under the circumstances" - suggested by Jean Fox

[25] In § 59.1-515(d), insert the following new subdivision:

(3) Notwithstanding any other provision of this title, if an individual enters into a transaction for personal, family or household purposes that is created or documented by an electronic record, the transaction shall be deemed to have been made or to have occurred at the individual's residence. This subsection is not variable by agreement.

- suggested by Jean Fox

[26] In § 59.1-515, insert the following new subsection:

(h) If a law other than this title requires that a notice of the right to cancel be provided or sent, an electronic record may not substitute for a writing under that other law unless, in addition to satisfying the requirements of that other law and this title, the notice of cancellation may be returned by electronic means. This section may not be varied by agreement.

- suggested by Jean Fox

[27] In § 59.1-515, insert the following new subsection: "(i) Notwithstanding any other section of this chapter, a record shall not be deemed received unless it is received by the intended recipient in a manner in which it can be opened and read by that recipient." - suggested by Jean Fox

[28] In § 59.1-518(b)(2), strike the subdivision and use the original language of UETA so that it will read as follows:

(2) Public bodies of the Commonwealth may specify the type of electronic signature required, the manner and format in which the electronic signature must be affixed to the electronic record, and the identity of, or criteria that must be met by, any third party used by a person filing a document to facilitate the process;

- suggested by Mike Thomas

In working through these suggested amendments, the advisory committee used the following procedural rules: each suggested amendment must have been moved for adoption and seconded before the committee could consider it; if a motion to adopt the suggested amendment was not seconded, then the amendment would fail; if the motion was seconded, then the committee could discuss the suggested amendment until a motion to call the vote was made; and, when such motion was made, the committee would take a vote. Working through this process, the following resulted:

<u>Item</u>	<u>Result</u>	<u>Process</u>
[1]	FAILED	Roll Call Vote (7 yeas; 11 nays)
[2]	FAILED	Not Seconded
[3]	No Action Taken	Withdrawn from Consideration by the Proponent
[4]	No Action Taken	Withdrawn from Consideration by the Proponent
[5]	No Action Taken	Withdrawn from Consideration by the Proponent
[6]	No Action Taken	Withdrawn from Consideration by the Proponent
[7]	No Action Taken	Withdrawn from Consideration by the Proponent
[8]	No Action Taken	Withdrawn from Consideration by the Proponent
[9]	No Action Taken	Withdrawn from Consideration by the Proponent
[10]	FAILED	Not Seconded
[11]	FAILED	Roll Call Vote (7 yeas; 12 nays)
[12]	FAILED	Not Seconded
[13]	FAILED	Voice Vote

Item	Result	Process
[14]	FAILED	Not Seconded
[15]	FAILED	Not Seconded
[16]	FAILED	Voice Vote
[17]	FAILED	Not Seconded
[18]	FAILED	Not Seconded
[19]	FAILED	Not Seconded
[20]	PASSED	Voice Vote (passed with an amendment)*
[21]	FAILED	Voice Vote
[22] [23] [24]	FAILED	Voice Vote (Amendments 22, 23, & 24 were considered together)
[25]	FAILED	Not Seconded
[26]	FAILED	Not Seconded
[27]	FAILED	Roll Call Vote (8 yeas; 9 nays)
[28]	PASSED	Voice Vote

* Suggested Amendment [20], which had proposed to amend § 59.1-512(a)(1) of the bill draft so that it will read, "Accurately reflects the information set forth in the record at the time it was first generated . . ." was passed with an amendment to the amendment so that the subdivision will read, "Accurately reflects the information set forth in the record at the time and after it was first generated . . ."

c. Recommendation

After working through all the suggested amendments, a committee member moved to recommend that the Joint Commission on Technology and Science introduce UETA as amended by Advisory Committee Five. This motion was duly seconded and passed on a voice vote. There was one nay vote.

3. Uniform Computer Information Transactions Act (UCITA)

a. Background

During the November 8, 1999, meeting the committee members discussed UCITA section by section and identified possible problem areas. These possible problem areas were then discussed during the December 7, 1999, meeting and the January 4, 2000 meeting. Before discussing these issues, however, on December 7, 1999, the Committee received public comments on UCITA.

Ten persons testified in front of the committee. Others elected to submit written statements only. Mr. Lane Kneeder, attorney, Reed Smith Hazel & Thomas, L.L.P., Mr. Dan Duncan, Vice President of Government Affairs, Software and Information Industry Association, Ms. Mary Jo Dively, the American Bar Association's advisor to UCITA Drafting Committee, Ms. Becca Gould, Vice President, Business Software Alliance, and Mr. Jimmy Hazel representing the Northern Virginia Technology Council spoke in favor of UCITA. Ms. Carolyn Barkley from the

Virginia Library Association, Mr. Chris Mohr representing the Magazine Publishers of America and the Newspaper Publishers of America, Ms. Christie Vernon of the Virginia Citizens Consumer Council, and Mr. Mark Tanenbaum spoke against UCITA. Mr. Skip Auld, a member of the advisory committee, informed the committee that the Commonwealth of Virginia State Networking Users Advisory Board, of which he is a member, opposes UCITA.

b. Discussion on UCITA

The following sections were discussed by the Committee.

The first concern was over the definitions of "access control" and "access material," § 102(a)(1) and (2) of UCITA respectively. The concern was that UCITA's definitions may be so broad that they may influence libraries with their practices of fair use. For example, if a library obtains a paper copy of a magazine, under fair use doctrine of the federal copyright laws, the library may make copies for educators. Since no computer information is involved, UCITA would not affect this situation at all. If the library obtains a license to access the same material over the Internet, however, UCITA would apply and the magazine publisher may impose restrictions on how many copies may be printed. Mr. Carlyle Ring responded by saying that the fair use doctrine is part of federal law which preempts UCITA; thus, UCITA would not affect libraries' practices of fair use. No amendment to the existing language was proposed, and the committee moved on to the next item of concern.

The next concern was that Section 102(a)(9)'s definition of computer may be too broad so that computer software and operating systems embedded in other goods, such as an automobile, may be included by UCITA. A member of the committee responded that § 103, scope of UCITA, already excludes such computers and computer software from the application of UCITA. No amendment was proposed and the committee moved on to the next item of concern.

The next concern was that Article 2 of the Uniform Commercial Code (UCC) may need to be included in § 104(5) which provides that "[t]he agreement may not alter a result required by otherwise applicable rules in" several articles of the UCC. Mr. Ring reported that NCCUSL's committee, which makes stylistic changes to the uniform acts deleted subsection (5) because it was redundant. Subsection (5) is unnecessary because § 103 of UCITA already excludes application of UCITA on subject matters covered by several articles of the UCC.

The concern about § 105 of UCITA was that as it is currently written, § 105 may allow information providers to place restrictions on fair use. A committee member stated that the courts have held that contract terms encroaching on fair use are not enforceable, and UCITA would continue to uphold this holding.

A suggestion was made that subsection (a) of § 105 should be made so that it would read, "[a] provision of this Act or a contract provision which is inconsistent with federal law is unenforceable" Several committee members commented that "inconsistent with federal law" is too broad and that the concern of encroaching on fair use is properly addressed in subsection (b), which allows the courts to refuse to enforce any contract terms that violate public

policy. A motion was made to make the suggested amendment; however, it was not seconded and, thus, failed.

The concern about § 105(b) was that it is not clear whether fair use is included in "fundamental public policy." An amendment was proposed to insert the phrase "including fair use," so that the subsection would read, "If a term of a contract violates a fundamental public policy, including fair use, the court may refuse to enforce the contract" The motion to amend failed by a committee vote of 8 yeas and 10 nays. The motion failed.

The concern about § 105(c) was that if the sale of software is treated as licensing of software, then the Virginia Consumer Protection Act would not cover the software. A committee member stated that the dominant current market trend is to license software. Software is not sold, but licensed. Although existing consumer protection laws may not cover licensing of software, UCITA provides consumer protection that does not currently exist, such as providing that a contract does not exist until the consumer has the opportunity to review the contract terms. No amendment was offered.

A motion was made to strike § 105(d). A committee member stated that under this subsection, if another law requires disclosure of certain information, this subsection does not overrule that requirement. The only thing this subsection would do is ensure that, if something needs to be disclosed in a conspicuous format and if that disclosure is made electronically, the disclosure would be made in such a format that it is conspicuous in the electronic format. The motion failed on a vote of 7 yeas and 10 nays. A new motion was made to strike subdivisions (d)(3) and (d)(4) of § 105; that motion failed on a voice vote.

Subsection (d) of § 106 provides, "[t]o be enforceable, a term need not be conspicuous, negotiated, or expressly assented or agreed to, unless this Act expressly so requires." This subsection was written to cover the automated computer-to-computer transaction. A motion was made to amend § 106(d) so that it would read, "To be enforceable, a term in a computer-to-computer transaction need not be . . ." The motion failed on a voice vote. A new motion was made to strike § 106(d). This motion failed on a voice vote.

A motion was made to include unconscionability in inducement in § 111. The motion stated that Article 2 of the Uniform Commercial Code (UCC) only contains substantive unconscionability as does § 111 of UCITA. This provision can be found in § 8.2-302 of the Code of Virginia. Article 2A of the UCC, which was promulgated much later than Article 2, contains both substantive unconscionability and unconscionability in inducement as provided in § 8.2A-108. The vote resulted in a tie with 9 yeas and 9 nays. The second vote resulted in 10 yeas and 7 nays. The motion passed.

Sections 112 and 209 of UCITA provide that a consumer may return the product if, after the consumer has the opportunity to review the contract terms, the consumer disagrees with those terms. A committee member stated that currently, most software retailers do not accept returns if the package is opened. In a mass market licensing scheme where the licensing agreement is located inside the package, a situation commonly referred to as "shrink-wrap licensing," the

consumer has to first pay for the product and open the package in order to read the licensing agreement. If the consumer opens the package, however, the retailer may not accept the return. Another committee member stated that these provisions, if enacted, would change this business practice. These provisions, if enacted, would force the retailers to accept returns even if the packages are opened. No amendment was offered.

Under § 211(1)(A), if a licensing agreement is to be posted on the Internet or a similar electronic medium, then the licensee would be deemed to have had the opportunity to review the licensing agreement if the licensor has displayed the licensing agreement "prominently and in close proximity to a description of the computer information, or to instructions or steps for acquiring it" A motion was made to strike the subdivision. The motion failed on a voice vote.

Section 215(a) of UCITA provides, "Receipt of an electronic message is effective when received even if no individual is aware of its receipt." This provision follows the "mailbox rule" of the contract laws, which provide that a message is deemed received when it arrives in the recipient's mailbox whether the recipient is aware of its arrival or not. The concern was that in using electronic mail (e-mail), sending e-mails to wrong addresses occurs much more frequently than when sending U.S. mail. Furthermore, many persons use e-mail filtering programs that prevent the delivery of unsolicited electronic advertisements, commonly referred to as "Spams." These programs may accidentally prevent the delivery of legitimate business e-mails. A committee member stated that if an e-mail was delivered to a wrong address or filtered out, then that e-mail could not be received by the intended recipient; thus, that e-mail would not be considered received under this subsection. A motion was made to insert the phrase "[i]f the parties have previously agreed to conduct business through electronic messages," before the beginning of the sentence. The vote resulted in a 9-9 tie. A new motion was made to amend the subsection so that it would read, "[r]eceipt of an electronic message is effective when properly addressed and received." The motion passed on a voice vote.

Section 402(a)(3) of UCITA provides, "[a]ny sample, model, or demonstration of a final product . . . creates an express warranty that the performance . . . will reasonably conform to the performance of the sample, model, or demonstration." The reasonable conformity reflects the reality that a computer program may perform well in one particular computer but may not perform as well in another computer. A motion was made to strike the word "reasonably." The motion failed in a voice vote.

A motion was made to amend § 405 of UCITA so that it expressly provides that it only applies to contracts involving customized products. The motion was not seconded and it failed.

The concern over § 503 of UCITA was that this section would eliminate the First Sale Doctrine of the federal copyright laws. During the November 4, 1999, meeting, Carlyle Ring, advisory committee member and the chairman of the UCITA Drafting Committee of the National Conference of Commissioners on Uniform State Laws (NCCUSL), had stated that § 503 would not eliminate the First Sale Doctrine because it is part of the federal Copyright Act, and federal laws preempt UCITA. A committee member asked whether the Official Comments to the Uniform Computer Information Act ("Official Comments") would state that UCITA does not

eliminate the First Sale Doctrine. Mr. Ring stated that he will recommend it to the Official Comments drafting committee.

Section 605 of UCITA allows the software programmers to use automatic electronic restraints. A committee member explained that the automatic restraint differs from electronic self-help provided in Part 8 of UCITA (§ 801 et seq.). For example, a business may purchase a software license that allows the licensee to have the software installed in 10 computers. If that software contains built-in electronic code that prohibits the software from being installed in the eleventh computer, that is an automatic restraint covered under § 605. If that software has built-in electronic code that would disable the software loaded in the previous 10 computers when the software is installed into the eleventh computer, then it is an electronic self-help covered under Part 8. No amendment was offered.

c. Conclusion

An advisory committee member then moved that the committee forward UCITA, as amended by the advisory committee, to the full Commission with a favorable recommendation that the Commission introduce UCITA as it was amended. The vote resulted in 12 yeas and 6 nays. The motion passed.

Upon conclusion of the proceedings, Guy Tripp, an attorney representing the Motion Picture Association of America (MPAA), alerted the committee that the MPAA has proposed making several amendments to the NCCUSL. Mr. Tripp stated that if those amendments are incorporated, then the MPAA will withdraw its earlier objection to UCITA. Mr. Ring also informed the committee that the Magazine Publishers of America and the Newspaper Association of America (NAA) also proposed a few amendments and that they too would withdraw their objections if these amendments were incorporated. Mr. Ring reported that these are mainly stylistic changes. He stated that he will forward these amendments to the Commission staff.

4. Recommendations.

The Advisory Committee Five recommends:

- 1) That the Uniform Electronic Transactions Act, as amended by the Advisory Committee Five, should be introduced.
- 2) That the Uniform Computer Information Transactions Act, as amended by the Advisory Committee Five, should be introduced.

IV. CONCLUSION

The Joint Commission on Technology and Science extends sincere appreciation to everyone who participated in its work during the 1999-2000 interim and the Commission respectfully requests the Governor and the General Assembly to support its legislative recommendations during the 2000 Session of the General Assembly. We look forward to continuing our work in 2000-2001.

Respectfully submitted,

Delegate Kenneth R. Plum, Chair
Senator Patricia S. Ticer, Vice Chair
Delegate William W. Bennett, Jr.
Delegate Alan A. Diamonstein
Delegate Joe T. May
Delegate Harry R. Purkey
Senator Janet D. Howell
Senator Stephen D. Newman
Senator Edward L. Schrock